



Rebecca J. Dulin
Associate General Counsel

Duke Energy
1201 Main Street
Capital Center Building
Suite 1180
Columbia, SC 29201

o: 803.988.7130
f: 803.988.7123

Rebecca.Dulin@duke-energy.com

April 25, 2019

VIA ELECTRONIC FILING

The Honorable Jocelyn G. Boyd
Chief Clerk/Administrator
Public Service Commission of South Carolina
101 Executive Center Drive, Suite 100
Columbia, South Carolina 29210

**RE: Duke Energy Progress, LLC – Monthly Power Plant
Performance Report
Docket No. 2006-224-E**

Dear Ms. Boyd:

Pursuant to the Commission's Orders in Docket No. 1977-354-E, enclosed for filing is the Monthly Power Plant Performance Report in Docket No. 2006-224-E for the month of March 2019.

Should you have any questions regarding this matter, please do not hesitate to contact me at 803.988.7130.

Sincerely,

Rebecca J. Dulin

Enclosure

cc: Ms. Dawn Hipp, Office of Regulatory Staff
Mr. Jeffrey M. Nelson, Office of Regulatory Staff
Ms. Nanette Edwards, Office of Regulatory Staff
Mr. Michael Seaman-Huynh, Office of Regulatory Staff
Ms. Heather Shirley Smith, Duke Energy
Mr. Scott Elliott, Elliott & Elliott, P.A.
Mr. Garrett Stone, Brickfield, Burchette, Ritts & Stone, PC
Mr. Gary Walsh, Walsh Consulting, LLC

**Duke Energy Progress
Base Load Power Plant Performance Review Plan**

Page 1 of 23

Period: March, 2019

Station	Unit	Date of Outage	Duration of Outage	Scheduled / Unscheduled	Cause of Outage	Reason Outage Occurred	Remedial Action Taken
Brunswick	1	03/28/2019 - 04/01/2019	79.95	Unscheduled	Forced outage due to drywell leak	Failed instrument coupling.	Replace failed coupling and complete an extent of condition review.
	2	03/02/2019 - 04/01/2019	719.00	Scheduled	End-of-cycle 24 refueling outage	Planned refueling outage.	None, planned outage.
Harris	1	None					
Robinson	2	None					

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
March 2019**

Lee Energy Complex

No Outages at Baseload Units During the Month.

Richmond County Station

Unit	Duration of Outage	Type of Outage	Cause of Outage	Reason Outage Occurred	Remedial Action Taken
7	2/23/2019 3:00:00 AM To 3/8/2019 9:25:00 PM	Sch	5272 Gas Turbine - Boroscope Inspection	Borescope and BOP outage.	
8	2/23/2019 3:00:00 AM To 3/8/2019 11:23:00 PM	Sch	5272 Gas Turbine - Boroscope Inspection	Borescope and BOP outage.	
ST4	2/23/2019 2:58:00 AM To 3/9/2019 12:38:00 AM	Sch	5272 Gas Turbine - Boroscope Inspection	Borescope inspections on U7, U8 and BOP outage.	
9	3/16/2019 4:03:00 AM To 4/1/2019 12:00:00 AM	Sch	5260 Major Gas Turbine Overhaul	CTmajor, BOP and ST major.	
10	3/16/2019 4:03:00 AM To 4/1/2019 12:00:00 AM	Sch	5260 Major Gas Turbine Overhaul	CTmajor, BOP and ST major.	
ST5	3/16/2019 3:54:00 AM To 4/1/2019 12:00:00 AM	Sch	4400 Major Turbine Overhaul (720 Hours Or Longer)	CTmajor, BOP and ST major.	

Sutton Energy Complex

Unit	Duration of Outage	Type of Outage	Cause of Outage	Reason Outage Occurred	Remedial Action Taken
ST1	3/14/2019 6:53:00 PM To 3/14/2019 7:10:00 PM	Unsch	4099 Other High Pressure Turbine Problems	Cold Reheat Temp tripped STG	

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

**Duke Energy Progress
Base Load Power Plant Performance Review Plan**

Page 3 of 23

**March 2019
Brunswick Nuclear Station**

	<u>Unit 1</u>	<u>Unit 2</u>		
(A) MDC (mW)	938	932		
(B) Period Hours	743	743		
(C) Net Gen (mWh) and Capacity Factor (%)	640,194	91.86	13,664	1.97
(D) Net mWh Not Gen due to Full Schedule Outages	0	0.00	670,108	96.77
* (E) Net mWh Not Gen due to Partial Scheduled Outages	0	0.00	8,534	1.23
(F) Net mWh Not Gen due to Full Forced Outages	74,993	10.76	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-18,253	-2.62	170	0.03
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00	0	0.00
* (I) Core Conservation	0	0.00	0	0.00
(J) Net mWh Possible in Period	696,934	100.00%	692,476	100.00%
(K) Equivalent Availability (%)		89.08		2.72
(L) Output Factor (%)		102.93		61.09
(M) Heat Rate (BTU/NkWh)		10,485		14,754

* Estimate
FOOTNOTE: D and F Include Ramping Losses

**Duke Energy Progress
Base Load Power Plant Performance Review Plan**

Page 4 of 23

**March 2019
Harris Nuclear Station**

Unit 1

(A) MDC (mW)	964	
(B) Period Hours	743	
(C) Net Gen (mWh) and Capacity Factor (%)	737,793	103.01
(D) Net mWh Not Gen due to Full Schedule Outages	0	0.00
* (E) Net mWh Not Gen due to Partial Scheduled Outages	0	0.00
(F) Net mWh Not Gen due to Full Forced Outages	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-21,541	-3.01
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00
* (I) Core Conservation	0	0.00
(J) Net mWh Possible in Period	716,252	100.00%
(K) Equivalent Availability (%)		100.00
(L) Output Factor (%)		103.01
(M) Heat Rate (BTU/NkWh)		10,119

* Estimate

FOOTNOTE: D and F Include Ramping Losses

ELECTRONICALLY FILED - 2019 April 25 4:13 PM - SCPSC - Docket # 2006-224-E - Page 5 of 24

Duke Energy Progress
Base Load Power Plant Performance Review Plan

Page 5 of 23

March 2019
Robinson Nuclear Station

Unit 2

(A) MDC (mW)	741	
(B) Period Hours	743	
(C) Net Gen (mWh) and Capacity Factor (%)	587,358	106.68
(D) Net mWh Not Gen due to Full Schedule Outages	0	0.00
* (E) Net mWh Not Gen due to Partial Scheduled Outages	0	0.00
(F) Net mWh Not Gen due to Full Forced Outages	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-36,795	-6.68
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00
* (I) Core Conservation	0	0.00
(J) Net mWh Possible in Period	550,563	100.00%
(K) Equivalent Availability (%)		100.00
(L) Output Factor (%)		106.68
(M) Heat Rate (BTU/NkWh)		10,097

* Estimate

FOOTNOTE: D and F Include Ramping Losses

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
March 2019**

Lee Energy Complex

	Unit 1A	Unit 1B	Unit 1C	Unit ST1	Block Total
(A) MDC (mW)	225	227	228	379	1,059
(B) Period Hrs	743	743	743	743	743
(C) Net Generation (mWh)	144,726	143,181	145,742	276,503	710,152
(D) Capacity Factor (%)	86.57	84.89	86.03	98.19	90.25
(E) Net mWh Not Generated due to Full Scheduled Outages	0	0	0	0	0
(F) Scheduled Outages: percent of Period Hrs	0.00	0.00	0.00	0.00	0.00
(G) Net mWh Not Generated due to Partial Scheduled Outages	20,433	21,175	21,547	371	63,526
(H) Scheduled Derates: percent of Period Hrs	12.22	12.56	12.72	0.13	8.07
(I) Net mWh Not Generated due to Full Forced Outages	0	0	0	0	0
(J) Forced Outages: percent of Period Hrs	0.00	0.00	0.00	0.00	0.00
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	0	0
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.00	0.00
(M) Net mWh Not Generated due to Economic Dispatch	2,017	4,305	2,115	4,723	13,159
(N) Economic Dispatch: percent of Period Hrs	1.21	2.55	1.25	1.68	1.67
(O) Net mWh Possible in Period	167,175	168,661	169,404	281,597	786,837
(P) Equivalent Availability (%)	87.78	87.44	87.28	99.87	91.93
(Q) Output Factor (%)	86.57	84.89	86.03	98.19	90.25
(R) Heat Rate (BTU/NkWh)	8,727	8,767	8,728	4,600	7,128

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
March 2019**

Richmond County Station

	Unit 7	Unit 8	Unit ST4	Block Total
(A) MDC (mW)	194	194	182	570
(B) Period Hrs	743	743	743	743
(C) Net Generation (mWh)	89,949	89,752	98,060	277,761
(D) Capacity Factor (%)	62.40	62.27	72.52	65.59
(E) Net mWh Not Generated due to Full Scheduled Outages	36,747	37,128	35,059	108,934
(F) Scheduled Outages: percent of Period Hrs	25.49	25.76	25.93	25.72
(G) Net mWh Not Generated due to Partial Scheduled Outages	11,072	11,308	3,577	25,957
(H) Scheduled Derates: percent of Period Hrs	7.68	7.85	2.65	6.13
(I) Net mWh Not Generated due to Full Forced Outages	0	0	0	0
(J) Forced Outages: percent of Period Hrs	0.00	0.00	0.00	0.00
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	0
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.00
(M) Net mWh Not Generated due to Economic Dispatch	6,375	5,953	0	12,328
(N) Economic Dispatch: percent of Period Hrs	4.42	4.13	0.00	2.91
(O) Net mWh Possible in Period	144,142	144,142	135,226	423,510
(P) Equivalent Availability (%)	66.83	66.40	71.43	68.15
(Q) Output Factor (%)	83.76	83.87	97.90	88.30
(R) Heat Rate (BTU/NkWh)	11,095	11,074	0	7,171

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
March 2019**

Richmond County Station

	Unit 9	Unit 10	Unit ST5	Block Total
(A) MDC (mW)	216	216	248	680
(B) Period Hrs	743	743	743	743
(C) Net Generation (mWh)	66,681	67,016	82,731	216,428
(D) Capacity Factor (%)	41.55	41.76	44.90	42.84
(E) Net mWh Not Generated due to Full Scheduled Outages	82,069	82,069	94,265	258,403
(F) Scheduled Outages: percent of Period Hrs	51.14	51.14	51.16	51.14
(G) Net mWh Not Generated due to Partial Scheduled Outages	7,624	7,443	0	15,067
(H) Scheduled Derates: percent of Period Hrs	4.75	4.64	0.00	2.98
(I) Net mWh Not Generated due to Full Forced Outages	0	0	0	0
(J) Forced Outages: percent of Period Hrs	0.00	0.00	0.00	0.00
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	0
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.00
(M) Net mWh Not Generated due to Economic Dispatch	4,114	3,960	7,268	15,342
(N) Economic Dispatch: percent of Period Hrs	2.56	2.47	3.94	3.04
(O) Net mWh Possible in Period	160,488	160,488	184,264	505,240
(P) Equivalent Availability (%)	44.11	44.23	48.84	45.87
(Q) Output Factor (%)	85.03	85.46	91.92	87.68
(R) Heat Rate (BTU/NkWh)	11,417	11,320	0	7,023

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
March 2019**

Sutton Energy Complex

	Unit 1A	Unit 1B	Unit ST1	Block Total
(A) MDC (mW)	224	224	271	719
(B) Period Hrs	743	743	743	743
(C) Net Generation (mWh)	131,326	131,593	145,349	408,268
(D) Capacity Factor (%)	78.91	79.07	72.19	76.42
(E) Net mWh Not Generated due to Full Scheduled Outages	0	0	0	0
(F) Scheduled Outages: percent of Period Hrs	0.00	0.00	0.00	0.00
(G) Net mWh Not Generated due to Partial Scheduled Outages	20,061	19,689	1,857	41,607
(H) Scheduled Derates: percent of Period Hrs	12.05	11.83	0.92	7.79
(I) Net mWh Not Generated due to Full Forced Outages	0	0	77	77
(J) Forced Outages: percent of Period Hrs	0.00	0.00	0.04	0.01
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	0
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.00
(M) Net mWh Not Generated due to Economic Dispatch	15,045	15,150	54,070	84,265
(N) Economic Dispatch: percent of Period Hrs	9.04	9.10	26.85	15.77
(O) Net mWh Possible in Period	166,432	166,432	201,353	534,217
(P) Equivalent Availability (%)	87.95	88.17	99.04	92.20
(Q) Output Factor (%)	80.79	80.88	74.49	78.46
(R) Heat Rate (BTU/NkWh)	10,994	10,972	0	7,073

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Intermediate Power Plant Performance
Review Plan
March 2019**

Mayo Station

Unit 1

(A) MDC (mW)	746
(B) Period Hrs	743
(C) Net Generation (mWh)	66,070
(D) Net mWh Possible in Period	554,278
(E) Equivalent Availability (%)	88.61
(F) Output Factor (%)	48.64
(G) Capacity Factor (%)	11.92

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

**Duke Energy Progress
Intermediate Power Plant Performance
Review Plan
March 2019**

	Roxboro Station		
	Unit 2	Unit 3	Unit 4
(A) MDC (mW)	673	698	711
(B) Period Hrs	743	743	743
(C) Net Generation (mWh)	-5,253	104,530	357,456
(D) Net mWh Possible in Period	500,039	518,614	528,273
(E) Equivalent Availability (%)	100.00	36.00	96.26
(F) Output Factor (%)	0.00	60.59	70.24
(G) Capacity Factor (%)	0.00	20.16	67.67

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

Duke Energy Progress
Base Load Power Plant Performance Review Plan

Page 12 of 23

April 2018 - March 2019
Brunswick Nuclear Station

	<u>Unit 1</u>	<u>Unit 2</u>		
(A) MDC (mW)	938	932		
(B) Period Hours	8760	8760		
(C) Net Gen (mWh) and Capacity Factor (%)	7,819,962	95.17	6,876,141	84.22
(D) Net mWh Not Gen due to Full Schedule Outages	81,262	0.99	670,108	8.21
* (E) Net mWh Not Gen due to Partial Scheduled Outages	44,629	0.54	82,363	1.01
(F) Net mWh Not Gen due to Full Forced Outages	331,693	4.04	252,868	3.10
* (G) Net mWh Not Gen due to Partial Forced Outages	-60,666	-0.74	282,840	3.46
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00	0	0.00
* (I) Core Conservation	0	0.00	0	0.00
(J) Net mWh Possible in Period	8,216,880	100.00%	8,164,320	100.00%
(K) Equivalent Availability (%)		96.00		87.43
(L) Output Factor (%)		100.21		94.96
(M) Heat Rate (BTU/NkWh)		10,416		10,798

* Estimate

FOOTNOTE: D and F Include Ramping Losses

Duke Energy Progress
Base Load Power Plant Performance Review Plan

Page 13 of 23

April 2018 - March 2019
Harris Nuclear Station

Unit 1

(A) MDC (mW)	964	
(B) Period Hours	8760	
(C) Net Gen (mWh) and Capacity Factor (%)	7,787,575	94.59
(D) Net mWh Not Gen due to Full Schedule Outages	756,318	9.19
* (E) Net mWh Not Gen due to Partial Scheduled Outages	20,006	0.24
(F) Net mWh Not Gen due to Full Forced Outages	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-330,491	-4.02
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00
* (I) Core Conservation	0	0.00
(J) Net mWh Possible in Period	8,233,408	100.00%
(K) Equivalent Availability (%)		90.44
(L) Output Factor (%)		104.23
(M) Heat Rate (BTU/NkWh)		10,226

* Estimate

FOOTNOTE: D and F Include Ramping Losses

Duke Energy Progress
Base Load Power Plant Performance Review Plan

Page 14 of 23

April 2018 - March 2019
Robinson Nuclear Station

Unit 2

(A) MDC (mW)	741	
(B) Period Hours	8760	
(C) Net Gen (mWh) and Capacity Factor (%)	5,264,471	81.10
(D) Net mWh Not Gen due to Full Schedule Outages	1,297,442	19.99
* (E) Net mWh Not Gen due to Partial Scheduled Outages	99,165	1.53
(F) Net mWh Not Gen due to Full Forced Outages	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-169,918	-2.62
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00
* (I) Core Conservation	0	0.00
(J) Net mWh Possible in Period	6,491,160	100.00%
(K) Equivalent Availability (%)		78.71
(L) Output Factor (%)		101.36
(M) Heat Rate (BTU/NkWh)		10,476

* Estimate

FOOTNOTE: D and F Include Ramping Losses

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
April, 2018 through March, 2019**

Lee Energy Complex

	Unit 1A	Unit 1B	Unit 1C	Unit ST1	Block Total
(A) MDC (mW)	225	227	228	379	1,059
(B) Period Hrs	8,760	8,760	8,760	8,760	8,760
(C) Net Generation (mWh)	1,423,723	1,430,643	1,449,864	2,839,979	7,144,209
(D) Capacity Factor (%)	72.23	71.95	72.59	85.54	77.01
(E) Net mWh Not Generated due to Full Scheduled Outages	73,316	85,738	88,863	132,069	379,986
(F) Scheduled Outages: percent of Period Hrs	3.72	4.31	4.45	3.98	4.10
(G) Net mWh Not Generated due to Partial Scheduled Outages	271,178	283,193	288,469	49,253	892,092
(H) Scheduled Derates: percent of Period Hrs	13.76	14.24	14.44	1.48	9.62
(I) Net mWh Not Generated due to Full Forced Outages	45,975	37,561	36,096	78,529	198,161
(J) Forced Outages: percent of Period Hrs	2.33	1.89	1.81	2.37	2.14
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	9,254	9,254
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.28	0.10
(M) Net mWh Not Generated due to Economic Dispatch	156,808	151,385	133,988	210,957	653,138
(N) Economic Dispatch: percent of Period Hrs	7.96	7.61	6.71	6.35	7.04
(O) Net mWh Possible in Period	1,971,000	1,988,520	1,997,280	3,320,040	9,276,840
(P) Equivalent Availability (%)	80.19	79.56	79.30	91.89	84.05
(Q) Output Factor (%)	78.54	77.06	77.80	91.79	82.81
(R) Heat Rate (BTU/NkWh)	9,013	9,096	9,010	4,572	7,263

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
April, 2018 through March, 2019**

Richmond County Station

	Unit 7	Unit 8	Unit ST4	Block Total
(A) MDC (mW)	190	190	177	557
(B) Period Hrs	8,760	8,760	8,760	8,760
(C) Net Generation (mWh)	1,242,500	1,232,784	1,387,299	3,862,583
(D) Capacity Factor (%)	74.56	73.98	89.61	79.14
(E) Net mWh Not Generated due to Full Scheduled Outages	103,816	93,362	60,727	257,904
(F) Scheduled Outages: percent of Period Hrs	6.23	5.60	3.92	5.28
(G) Net mWh Not Generated due to Partial Scheduled Outages	175,091	179,560	59,403	414,053
(H) Scheduled Derates: percent of Period Hrs	10.51	10.78	3.84	8.48
(I) Net mWh Not Generated due to Full Forced Outages	15,578	22,448	5,014	43,040
(J) Forced Outages: percent of Period Hrs	0.93	1.35	0.32	0.88
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	12,850	12,850
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.83	0.26
(M) Net mWh Not Generated due to Economic Dispatch	129,451	138,281	22,819	290,552
(N) Economic Dispatch: percent of Period Hrs	7.77	8.30	1.47	5.95
(O) Net mWh Possible in Period	1,666,435	1,666,435	1,548,113	4,880,983
(P) Equivalent Availability (%)	82.37	82.31	91.20	85.09
(Q) Output Factor (%)	80.63	80.52	94.01	84.93
(R) Heat Rate (BTU/NkWh)	11,328	11,164	0	7,207

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
April, 2018 through March, 2019**

Richmond County Station

	Unit 9	Unit 10	Unit ST5	Block Total
(A) MDC (mW)	216	216	248	680
(B) Period Hrs	8,760	8,760	8,760	8,760
(C) Net Generation (mWh)	1,414,983	1,427,236	1,840,903	4,683,122
(D) Capacity Factor (%)	74.78	75.43	84.74	78.62
(E) Net mWh Not Generated due to Full Scheduled Outages	172,670	174,442	202,083	549,195
(F) Scheduled Outages: percent of Period Hrs	9.13	9.22	9.30	9.22
(G) Net mWh Not Generated due to Partial Scheduled Outages	198,417	194,176	0	392,593
(H) Scheduled Derates: percent of Period Hrs	10.49	10.26	0.00	6.59
(I) Net mWh Not Generated due to Full Forced Outages	3,920	277	0	4,198
(J) Forced Outages: percent of Period Hrs	0.21	0.01	0.00	0.07
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	1,848	1,848
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.09	0.03
(M) Net mWh Not Generated due to Economic Dispatch	102,169	96,030	127,646	325,845
(N) Economic Dispatch: percent of Period Hrs	5.40	5.08	5.88	5.47
(O) Net mWh Possible in Period	1,892,160	1,892,160	2,172,480	5,956,800
(P) Equivalent Availability (%)	80.18	80.50	90.61	84.09
(Q) Output Factor (%)	82.97	83.12	93.43	86.84
(R) Heat Rate (BTU/NkWh)	11,311	11,252	0	6,847

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
April, 2018 through March, 2019**

Sutton Energy Complex

	Unit 1A	Unit 1B	Unit ST1	Block Total
(A) MDC (mW)	224	224	271	719
(B) Period Hrs	8,760	8,760	8,760	8,760
(C) Net Generation (mWh)	1,129,922	1,102,837	1,216,696	3,449,455
(D) Capacity Factor (%)	57.58	56.20	51.25	54.77
(E) Net mWh Not Generated due to Full Scheduled Outages	204,202	273,175	242,491	719,868
(F) Scheduled Outages: percent of Period Hrs	10.41	13.92	10.21	11.43
(G) Net mWh Not Generated due to Partial Scheduled Outages	220,747	203,720	16,716	441,183
(H) Scheduled Derates: percent of Period Hrs	11.25	10.38	0.70	7.00
(I) Net mWh Not Generated due to Full Forced Outages	132,765	166,996	569,552	869,312
(J) Forced Outages: percent of Period Hrs	6.77	8.51	23.99	13.80
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	12,685	12,685
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.53	0.20
(M) Net mWh Not Generated due to Economic Dispatch	274,604	215,512	315,820	805,936
(N) Economic Dispatch: percent of Period Hrs	13.99	10.98	13.30	12.80
(O) Net mWh Possible in Period	1,962,240	1,962,240	2,373,960	6,298,440
(P) Equivalent Availability (%)	71.58	67.19	64.56	67.56
(Q) Output Factor (%)	77.34	77.94	78.28	77.86
(R) Heat Rate (BTU/NkWh)	11,366	11,373	0	7,359

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Intermediate Power Plant
Performance Review Plan
April, 2018 through March, 2019**

Mayo Station

Units	Unit 1
(A) MDC (mW)	746
(B) Period Hrs	8,760
(C) Net Generation (mWh)	1,350,056
(D) Net mWh Possible in Period	6,534,960
(E) Equivalent Availability (%)	66.37
(F) Output Factor (%)	37.55
(G) Capacity Factor (%)	20.66

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

**Duke Energy Progress
Intermediate Power Plant
Performance Review Plan
April, 2018 through March, 2019**

Roxboro Station

Units	Unit 2	Unit 3	Unit 4
(A) MDC (mW)	673	698	711
(B) Period Hrs	8,760	8,760	8,760
(C) Net Generation (mWh)	1,555,700	1,374,062	1,960,487
(D) Net mWh Possible in Period	5,895,480	6,114,480	6,228,360
(E) Equivalent Availability (%)	79.51	57.68	64.47
(F) Output Factor (%)	49.91	49.96	56.50
(G) Capacity Factor (%)	26.39	22.47	31.48

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

Duke Energy Progress
Outages for 100 mW or Larger Units
March, 2019

Page 21 of 23

<u>Unit Name</u>	<u>Capacity Rating (mW)</u>	<u>Full Outage Hours</u>		<u>Total</u>
		<u>Scheduled</u>	<u>Unscheduled</u>	
Brunswick 1	938	0.00	79.95	79.95
Brunswick 2	932	719.00	0.00	719.00
Harris 1	964	0.00	0.00	0.00
Robinson 2	741	0.00	0.00	0.00

Duke Energy Progress
Outages for 100 mW or Larger Units
March 2019

Unit Name	Capacity Rating (mW)	Full Outage Hours		Total Outage Hours
		Scheduled	Unscheduled	
Asheville Steam 1	192	0.00	0.00	0.00
Asheville Steam 2	192	0.00	79.15	79.15
Asheville CT 3	185	0.00	0.00	0.00
Asheville CT 4	185	0.00	555.00	555.00
Darlington CT 12	133	4.12	0.17	4.28
Darlington CT 13	133	0.00	0.00	0.00
Lee Energy Complex CC 1A	225	0.00	0.00	0.00
Lee Energy Complex CC 1B	227	0.00	0.00	0.00
Lee Energy Complex CC 1C	228	0.00	0.00	0.00
Lee Energy Complex CC ST1	379	0.00	0.00	0.00
Mayo Steam 1	746	0.00	0.00	0.00
Richmond County CT 1	189	182.97	0.00	182.97
Richmond County CT 2	187	0.00	0.00	0.00
Richmond County CT 3	185	408.00	0.00	408.00
Richmond County CT 4	186	0.00	0.00	0.00
Richmond County CT 6	187	0.00	0.00	0.00
Richmond County CC 7	194	189.42	0.00	189.42
Richmond County CC 8	194	191.38	0.00	191.38
Richmond County CC ST4	182	192.63	0.00	192.63
Richmond County CC 9	216	379.95	0.00	379.95
Richmond County CC 10	216	379.95	0.00	379.95
Richmond County CC ST5	248	380.10	0.00	380.10

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

Duke Energy Progress
Outages for 100 mW or Larger Units
March 2019

Unit Name	Capacity Rating (mW)	Full Outage Hours		Total Outage Hours
		Scheduled	Unscheduled	
Roxboro Steam 1	380	0.00	0.00	0.00
Roxboro Steam 2	673	0.00	0.00	0.00
Roxboro Steam 3	698	445.32	0.00	445.32
Roxboro Steam 4	711	0.00	0.00	0.00
Sutton Energy Complex CC 1A	224	0.00	0.00	0.00
Sutton Energy Complex CC 1B	224	0.00	0.00	0.00
Sutton Energy Complex CC ST1	271	0.00	0.28	0.28
Wayne County CT 10	192	31.00	0.00	31.00
Wayne County CT 11	192	31.00	0.00	31.00
Wayne County CT 12	193	31.00	0.00	31.00
Wayne County CT 13	191	31.00	0.00	31.00
Wayne County CT 14	195	31.00	201.05	232.05

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.